

Quanterra Incorporated 13715 Rider Trail North Earth City, Missouri 63045

314 298-8566 Telephone 314 298-8757 Fax

CASE NARRATIVE

0052749

Bechtel Hanford Incorporated 3350 George Washington Way Richland, Washington 99352

February 4, 2000

Attention: Joan Kessner

Ouote Number

SDG

: 33811 : W02993

Number of Samples Sample Matrix

twenty (20) Solid

Data Deliverable

Summary

Date SDG Closed

January 4, 2000

RECEIVED

EDMC

II. Introduction

Between December 29, 1999, and January 4, 2000, twenty (20) "solid" samples were received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. The samples were received at the St. Louis lab within the temperature criteria. See the attached Sample Summary for a listing of Client lds and their associated Lab numbers.

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested:

ICP Metals - 6010 Super Trace - Lead

Mercury - 7471 - CV

Deviation from Request:

None

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank

OCLCS- Quality Control Laboratory Control Sample, Blank Spike



Bechtel Hanford Incorporated

February 4, 2000

Quote Number: 33811

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Page 2

MS-

Matrix Spike.

MSD-

Matrix Spike Duplicate.

V. Comments

General:

The term "Detection Limit" used in the analytical data reports refers to either the lab's standard reporting limits or contractually required

reporting limits, whichever is applicable.

Please refer to the attached cross-reference table for the standard

preparation methods used at Quanterra, St. Louis.

Metals:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

There were no comments or non-conformances associated with this SDG.

I certify that this Summary is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Marti Ward

St. Louis Project Manager

SAMPLE SUMMARY

F0A040163

WO #	SAMPLE#	CLIENT	SAMPLE ID	DATE	<u>TIME</u>
D72VN	001	BOXBH1		12/29/99	12.53
D72VN	001	BOXBH2		12/29/99	
D72X5	003	вохвиз		12/29/99	
D72X6	004	B0XBH4		12/29/99	13:37
D72XC	005	B0XB46	ı	01/03/00	08:13
D72XH	006	B0XB47		01/03/00	
D72XJ	007	B0XB48		01/03/00	
D72XK	800	B0XB49		01/03/00	
D72XL	009	B0XB50		01/03/00	
D72XM	010	B0XB51		01/03/00	
D72XN	011	B0XB52	•	01/03/00	09:05

NOTE (S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

SAMPLE SUMMARY

F0A050217

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D74C5 D74C9 D74CC D74CE D74CF	004 005	B0XB53 B0XB54 B0XB55 B0XB56 B0XB57 B0XB58	01/04/00 01/04/00 01/04/00 01/04/00 01/04/00	08:32 08:41 08:48 08:53
D74CJ	007	B0XB59	01/04/00	09:28

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

SAMPLE SUMMARY

F9L300209

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D7124 D7369			12/27/99 12/27/99	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

000006

METHODS SUMMARY

F0A040163

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Mercury in Solid Waste (Manual Cold-Vapor) Trace Inductively Coupled Plasma (ICP) Metals	SW846 7471A SW846 6010B	SW846 7471A SW846 3050B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A040163-001

PROJECT #: D&D WORK ORDER: D72VN

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 12/29/99 SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 12:53
MATRIX: SOLID RECEIVING TIME: 8:34

SAMPLE ID: BOXBH1

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 6/26/00

METALS, TOTAL - Soils

MT6010 S PB

(A-46-QM-01) D72VN Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/26/00

METALS, TOTAL (Method Exclusive) - Solids

M7471_S HG

(A-70-09-01) D72VN Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811

PROJECT MANAGER: MARTI WARD

LAB ID: F-0A040163-001-D

PROJECT #: D&D WORK ORDER: D72VN MSD

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 12/29/99

SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 12:53
MATRIX: SOLID RECEIVING TIME: 8:34

SAMPLE ID: BOXBH1

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 6/26/00 METALS, TOTAL - Soils

MT6010 S PB

(A-46-QM-01) D72VN Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/26/00

METALS, TOTAL (Method Exclusive) - Solids

M7471_S HG

(A-70-09-01) D72VN Protocol: A QC Program: STANDARD TEST SET

PSL20300 Page 1 CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis QUANTERRA INCORPORATED

Run Date: 1/04/00

QUOTE/SAR #: 33811

LAB ID: F-0A040163-001-S

RECEIVING DATE: 1/03/00

SAMPLING DATE: 12/29/99

PRIORITY: 18

WORK ORDER: D72VN MS

ANALYTICAL DUE DATE: 1/21/00N

RECEIVING TIME:

SDG# : W02993

REPORT DUE DATE: 1/24/00

Time: 15:57:48 User Id.: SMITHJE

CLIENT: 127642 BECHTEL HANFORD, INC.

PROJECT MANAGER: MARTI WARD

PROJECT #: D&D

REPORT TO: Bechtel Hanford, Inc.

P.O. NUMBER: MRC-SBB-A-19981

SITE: B00-013

AMOUNT REC"D: 60G

STORAGE LOC: T5F

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 12:53

MATRIX: SOLID

SAMPLE ID: BOXBH1

QC PACKAGE: Special Report - see checklist

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

***** ANALYSIS *****

LOC

WRK REQUEST EXTRACTION ANALYSIS

DATE EXP DATE EXP DATE

8:34

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 6/26/00

METALS, TOTAL - Soils

MT6010_S PB

(A-46-QM-01) D72VN Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/26/00 METALS, TOTAL (Method Exclusive) - Solids

M7471 S HG

(A-70-09-01) D72VN Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC.

QUOTE/SAR #: 33811 LAB ID: F-0A040163-002

PROJECT MANAGER: MARTI WARD LAB ID:

PROJECT #: D&D WORK ORDER: D72X4

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 12/29/99

SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 13:02 MATRIX: SOLID RECEIVING TIME: 8:34

SAMPLE ID: BOXBH2

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 6/26/00

METALS, TOTAL - Soils

MT6010_S PB

(A-46-QM-01) D72X4 Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/26/00

METALS, TOTAL (Method Exclusive) - Solids

M7471_S HG

(A-70-09-01) D72X4 Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A040163-003

PROJECT #: D&D WORK ORDER: D72X5

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 12/29/99
SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N
AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 13:14
MATRIX: SOLID RECEIVING TIME: 8:34

SAMPLE ID: BOXBH3

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 6/26/00

METALS, TOTAL - Soils

MT6010_S PB

(A-46-QM-01) D72X5 Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/26/00

METALS, TOTAL (Method Exclusive) - Solids

M7471 S HG

(A-70-09-01) D72X5 Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811 PROJECT MANAGER: MARTI WARD LAB ID: F-0A040163-004

PROJECT #: D&D WORK ORDER: D72X6

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 12/29/99 SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 13:37 MATRIX: SOLID RECEIVING TIME: 8:34

SAMPLE ID: B0XBH4

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 6/26/00

METALS, TOTAL - Soils

MT6010_S PB

(A-46-QM-01) D72X6 Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/26/00

METALS, TOTAL (Method Exclusive) - Solids

M7471 S HG

(A-70-09-01) D72X6 Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811

PROJECT MANAGER: MARTI WARD

LAB ID: F-0A040163-005

PROJECT #: D&D WORK ORDER: D72XC

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/03/00 SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N

AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:13
MATRIX: SOLID RECEIVING TIME: 11:40

SAMPLE ID: B0XB46

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 7/01/00

METALS, TOTAL - Soils

MT6010_S PB

(A-46-QM-01) D72XC Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/31/00

METALS, TOTAL (Method Exclusive) - Solids

M7471 S HG

(A-70-09-01) D72XC Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811

PROJECT MANAGER: MARTI WARD LAB ID: F-0A040163-006

PROJECT #: D&D WORK ORDER: D72XH

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/03/00 SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N

AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:26 MATRIX: SOLID RECEIVING TIME: 11:40

MATRIX: SOLID SAMPLE ID: BOXB47

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 7/01/00

METALS, TOTAL - Soils

MT6010 S PB

(A-46-QM-01) D72XH Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/31/00

METALS, TOTAL (Method Exclusive) - Solids

M7471_S HG

(A-70-09-01) D72XH Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811 PROJECT MANAGER: MARTI WARD LAB ID: F-0A040163-007

PROJECT #: D&D WORK ORDER: D72XJ

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/03/00 SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N

AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00 STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:34

MATRIX: SOLID RECEIVING TIME: 11:40

SAMPLE ID: B0XB48

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 7/01/00

METALS, TOTAL - Soils MT6010 S PB

(A-46-QM-01) D72XJ Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/31/00

METALS, TOTAL (Method Exclusive) - Solids

M7471_S HG

(A-70-09-01) D72XJ Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A040163-008

PROJECT #: D&D WORK ORDER: D72XK

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/03/00 SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:42 MATRIX: SOLID RECEIVING TIME: 11:40

SAMPLE ID: BOXB49

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 7/01/00

METALS, TOTAL - Soils

MT6010_S PB

(A-46-QM-01) D72XK Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/31/00

METALS, TOTAL (Method Exclusive) - Solids

M7471_S HG

(A-70-09-01) D72XK Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811 PROJECT MANAGER: MARTI WARD LAB ID: F-0A040163-009

PROJECT #: D&D WORK ORDER: D72XL

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/03/00 SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:51
MATRIX: SOLID RECEIVING TIME: 11:40

SAMPLE ID: BOXB50

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 7/01/00

METALS, TOTAL - Soils

MT6010 S PB

(A-46-QM-01) D72XL Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/31/00

METALS, TOTAL (Method Exclusive) - Solids

M7471_S HG

(A-70-09-01) D72XL Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A040163-010

PROJECT #: D&D WORK ORDER: D72XM

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/03/00 SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:05 MATRIX: SOLID RECEIVING TIME: 11:40

SAMPLE ID: BOXB51

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 7/01/00

METALS, TOTAL - Soils

MT6010 S PB

(A-46-QM-01) D72XM Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/31/00

METALS, TOTAL (Method Exclusive) - Solids

M7471 S HG

(A-70-09-01) D72XM Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A040163-011

PROJECT #: D&D WORK ORDER: D72XN

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/03/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/03/00 SITE: B00-013 ANALYTICAL DUE DATE: 1/21/00N

AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T5F PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:05
MATRIX: SOLID RECEIVING TIME: 11:40

SAMPLE ID: B0XB52

QC PACKAGE: Special Report - see checklist SDG# : W02993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/04/00 0/00/00 7/01/00

METALS, TOTAL - Soils

MT6010_S PB

(A-46-QM-01) D72XN Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/04/00 0/00/00 1/31/00

METALS, TOTAL (Method Exclusive) - Solids

M7471_S HG

(A-70-09-01) D72XN Protocol: A QC Program: STANDARD TEST SET

CUK 井 02006と W-211039 CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST Bechtel Hanford Inc. B00-013-142 Page $\underline{1}$ of $\underline{1}$ Collector Company Contact Telephone No. Project Coordinator Price Code 91. Data Turnaround Fahlberg J Adler 373-4316 TRENT, SJ 21 Days Sampling Location SAF No. Project Designation Air Quality [B00-013 105F 105-F/DR Phase III Below-grade Areas Sampling and Analy COA Ice Chest No. Field Logbook No. Method of Shipment EL 1424 R105F2280C Gov. Vehicl Bill of Lading/Air Bill No. NA Querbonie 0540/2582 Offsite Property No. Shipped To NIA Quanterra Incorporated POSSIBLE SAMPLE HAZARDS/REMARKS None None Preservation aG aG Type of Container No. of Container(s) 60mL 120mL Special Handling and/or Storage Volume ICP Metals -See item (1) in 6010A Special (Supertrace) Instruction SAMPLE ANALYSIS (Lead), Mercury -W02993 7471 - (CV) Sample Time Sample No. Matrix * Sample Date 100% FUI B0XBH1 12.29.99 1253 Other Solid X BOXISH2 12.29.99 1302 BOXBH3 12.29.99 13/4 12.29.99 BOX BHY 1337 CHAIN OF POSSESSION Sign/Print Names SPECIAL INSTRUCTIONS Matrix * Date/Time 1530 Relinguished By Received By 5=Sol1 (1) Gamma Spectroscopy (Cobalt-60); Gamma Spec - Add-on (Barium-133); Isotopic Plutonium; 4.29.99 SE=Sedim Strontium-89,90 - Total Sr; Technetium-99; Americium-241; Nickel-63; Carbon-14 SC=Solid Date/Time, S =Shidge W = Water 01-03-00 /0730 0-08 A-Air DS-Drum Solids DL-Drum Liquid T=Tissue Date/Time WI-Wipe 01-04-00 0850 L=Llquid V=Vegetation Date/Time eceived By Relinguished By X-Other Received By Date/Time Relinquished By Date/Time Title Date/Time LABORATORY Received By SECTION FINAL SAMPLE Disposal Method Disposed By Date/Time DISPOSITION

Bechtel Hanfo	rd Inc.		CHA	IN OF CUST	ODY/S	AMPLE	ANAL	YSIS I	REQUES'	Γ	B00-013-90			Page 1	Page <u>1</u> of <u>1</u>	
Collector Fahlberg			Company (J Adler	Contact	Telepho 373-4				Project Coord TRENT, SJ	inator	Price Code 9L			rnaround		
Project Designation 105-F/DR Phase III Below-g	rade Areas Sampling and		Sampling 1 105 F	Location					SAF No. B00-013		Air Q	uality		21	Days	
Ice Chest No.	L.452		Field Logb EL 1424			COA R105F22800	C		Method of Shi	pment	Gov. Vehicle			de		
Shipped To Quanterra Incorporated			Offsite Pro	perty No.	NIA				Bill of Lading	/Air Bill						
POSSIBLE SAMPLE HAZA	RDS/REMARKS			Preservation	Cool 4C	None	Cool 4C	None	None		'					
			T	ype of Container	aG	aG	aG	aG	₽G	1					 	
				o. of Container(s)	0	0	1	1	i			-				
Special Handling and/or Sto	rage			Volume	60mL	120mL	60mL	60mL	. 120mL							
<u>, , , , , , , , , , , , , , , , , , , </u>	SAMPLE ANAL	YSIS		-	PCBs - 8082	Isotopic Uranium	7196_CR6: Hexavalent/ Chromium(1)	ICP Meta 6010A (Supertra (Lead) Mercury 7471 - (C	Special Instructions.				į			
Sample No.	Matrix •	Sample	Date	Sample Time		PERSON	A SCORE				W 3		100		d serve	
B0XB46 (5)	Other Solid	1-3-	tO	0813			X	X	X	Dr	IIG	D	100	% Full		
Box 847	OTHER SOUD	1-3-	00	08:26		<u> </u>	LX_	X	X_	10 1	710	<u>J_</u>	1		<u> </u>	
BOVB48	OTHERESILO	1-3	-00	08:34		 	 X	一六	$\bot X$	107	ŢΙQ	<u>K</u> _		_		
30x849	OTHER SOLID	1-3-		08:47	ļ	ļ	X	<u> × </u>	<u> </u>	112		<u>L</u>			 	
Box B50	OTHER SOUD	1-3.	<u> </u>	mes RAT 1-3-40	08:51	<u> </u>	$\top X$	<u> </u>		1127	H(x)	12:	$\perp \downarrow$		Matrix *	
CHAIN OF POSSESSIC Relinquished By Relinquished By Relinquished By Relinquished By Relinquished By	Date/Time D76	Received Received	hor Add Scn 1	Da en 1.3.00 Dalug 1-3	te/Time <i>\(U\)</i> 	(1) C Stron	dium-89,90 - 1 ア o (= い o (プ	Scopy (Co Fotal Sr; Te	obalt-60); Gamma echnetium-99; An	nericijim-2	241; Nickel	,63; Carb	on-14		S=Soil SE=Sediment SO=Soild S=Sindge W=Water O=Oil A=Air DS=Drum Soil DL=Drum Liqu T=Tissue WI=Wipe	
Relinquished By	Date/Time	Beceived ,	Ву		te/Time										L=Elquid V=Vegetation X=Other	
Relinquished By	Date/Time	Received	Ву	Da	te/Time											
LABORATORY Received B	у				Ti	itle							-	Date/Time		
FINAL SAMPLE Disposal M	lethod		 				Dispo	sed By				-		Date/Time		

Page 1 of 1 CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST B00-013-95 Bechtel Hanford Inc. ollector Company Contact Telephone No. Project Coordinator Price Code 9L Data Turnaround J Ádler 373-4316 TRENT, SI Fahlberg 21 Days Project Designation Sampling Location SAF No. Air Quality [7] B00-013 105-F/DR Phase III Below-grade Areas Sampling and Analy 105 F Field Logbook No. Method of Shipment Ice Chest No. COA Gov. vehicle 5m6.450 105F2280C EL 1424 Bill of Lading/Air Bill No. Offsite Property No. Shipped To Quanterra Incorporated POSSIBLE SAMPLE HAZARDS/REMARKS Cool 4C Cool 4C None None None Preservation аG аG aG aG аG Type of Container 0 ō 1 No. of Container(s) 120mL Special Handling and/or Storage 60mL 120mL 60mL 60mL Volume 7196 CR6: ICP Metals PCBs - 8082 Isotopic See item (1) i Uranium Hexavalent 6010A Special (Supertrace) Instructio SAMPLE ANALYSIS (Lead); Mercury -7471 - (CV) Sample Date Sample No. Matrix * Sample Time 100% Full B0XB51 Other Solid -3-00 09:05 B04352 -2-00 09:06 CONGRESSIU CHAIN OF POSSESSION Sign/Print Names Matrix * SPECIAL INSTRUCTIONS Date/Timq@30 Relinquished By ived By. Date/Time S-Soil (1) Gamma Spectroscopy (Cobalt-60); Gamma Spec - Add-on (Barium-133); Isotopic Plutonium; *.5*0 SE-Sediment 1:3:0 b Strontium-89,90 -- Total Sr; Technetium-99; Americium-241; Nickel-63; Carbon-14 SO=Solid Received By OUT OF GRAMA SPEC ADDICIZE URANIUM Date/Time Date/Time S =Sludge 1-3-00 0-01 6 C Réceived By A=Ak Date/Time Relinquished By DS=Drum Solids 01-04-00 0850 DL-Drum Liquida T=T)sauc Received By Relinquistied By Date/Time Date/Time WI-Wipe L=Liquid V=Vegetation

Date/Time

Date/Time

Title

Disposed By

X=Ouber

Date/Time

Date/Time

DISPOSITION
D
BHI-EE-011 (10/99)

SECTION

FINAL SAMPLE

LABORATORY | Received By

Disposal Method

Relinquished By

Relinguished By

Date/Time

Date/Time

Received By

Received By

DEC 38 33 18-13-1

ERC Radiological Counting Facility Analysis Report

Project ID: 105-F			SAF Number: B	00-013	Sample Date & Time 12/29/99 0935 Date Analyzed 12/30/99 8:07:						
Sample ID:	BOXBI	F5		•							
Gamma Ene	rgy Ana	yris									
Nuclide		ctivity (pCi/g)	Error (pCi/g)	MDC (pCVg)	B0 x B46-						
K-40	<	1.4E+02	•	1.4E+02	DO NO 10-						
Co-60	<	7.8E+00		7.8E+00	Box B52						
Cs-137	<	2.0E+01		2.0E+01	60 × 00 ×						
Eu-152	. < .	4.9E+01		4.9E+01							
Eu-154	<	3.9E+01		3.9E+01							
Eu-155	<	7.9E+01		7.9E+01	•						
Th-232D	<	4.4E+01		4.4E+01							
U-235	<	1.6E+02		1.6E+02							
U-238	<	3.4E+03		3.4E+03							
U-238D	•	1.4E+02	+/- 4.55+01	5.1E+01							
Am-241	<	4.5E+01		4.5E+01							

Total GEA (pCl/g)	1.4E+02 +/-	4.5E+01		·
· 	Activity (pCVg)	Error (pCl/g)		Alpha MDC (pCl/g)
Gross Alpha**	2.0E+00 +/-	9.3E-01		9.3E-01
Gross Beta	2.4E+01 +/-	1.7E+00		Beta MDC (pCi/g)
				1.3E+01

Definitions:

All errors reported at 2 standard deviations.

N/R = no result or analysis not requested. <MDC = Less than detection limit.

All GEA results reported as *<* list the Minimum Detectable Concentration (MDC) value for that radionuclide.

Rounding error may result in the reported total GEA activity differing from the sum of the > MDC GEA values in the second significant digit.

For soils and natural samples, the following applies:

The analysis of U-23# is based on the activity of Ps-234m.

The analysis of Np-237 is based on the activity of Pa-233.

U-238dau is the activity of Pb-214 and Bi-214, short lived daughter products of U-238. Equilibrium between parent and daughter products probably does not exist in disturbed materials.

Th-232day is the activity of Ac-228, Pb-212, and Ti-208, short lived daughter products of Th-232. Equilibrium between parent and daughter products may not exist in disturbed materials.

Other samples, not containing natural materials, may have inapplicable results for the Th. U, transurantes and daughter products. The results must then be bulenced for the gross alpha enalysis.

** The gross alpha results are not corrected for mass absorbtion

No peaks for this radionucilde were visible above background in the spectrum. The result was reported as less than MDC.

Analyst 12/30/99 Report To Fax

T. J. Snider 372-9487

Snider, Timothy J

From: Sent To:

Subject:

Snider, Timothy J Thursday, December 30, 1999 9:29 AM Kessner, Joan H; Trent, Stephen J; Adler, Jason G; Weiss, Richard L BOXBF7 (RCF6960), and BOXBF8 (RCF6961) 105F, SAF B00-013

All,

Will not be able to complete GEA's this morning due to computer shut down, however below is the gross alpha/beta results.

BOXBF7

2 pCVgm alpha

12 pCl/gm beta

BOXBF8

2 pCi/gm alpha

14 pCi/gm beta

MDA's

<1 pCi/gm alpha

11 pCl/gm beta

Timothy J. Snider RCF Technical Lead 373-9731

Figure 1

	SAMPLE CHECK-IN LIST	
Date/1	Time Received: 01/03/00 SG#: W0 29	93
Work	Order Number: 00A030128 SAF#: 30	70-13 -
Shippi	ng Container IDEBC99900 Chain of Custody #_8300	1-013-142
1.	Custody Seals on shipping container intact?	Yes [] No []
2.	Custody Seals dated and signed?	Yes [4 No []
3.	Chain-of-Custody record present?	Yes [4 No []
4.	Cooler temperature	
5.	Vermiculite/packing materials is	Wet [] Dry []
6.	Number of samples in shipping container:	
7.	Sample holding times exceeded?	Yes [] No []
8.	Samples have:	
9.	Samples are:in good conditionieakingbrokenhave air bubbles	
10.	Where any anomalies identified in sample receipt? Yes [] No	[4
11.	Description of anomalies (include sample numbers):	
	•	
	· · · · · · · · · · · · · · · · · · ·	
Sample	e Custodian/Laboratory: A Aokt enlugate:	003-0 C
Teleph	oned To:OnBy	

Figure 1

SAMPLE CHECK-IN LIST

	Time Received: <u>1-3-00 1/40 </u>	
	Order Number: <u>J0A030128</u> SAF #: <u>B00-0</u>	
Shippi	ng Container ID: 5M452 Chain of Custody # B00-6	013-90+95
1.	Custody Seals on shipping container intact?	Yes [] No []
2.	Custody Seals dated and signed?	Yes [No []
3.	Chain-of-Custody record present?	Yes [No []
4.	Cooler temperature	,
5.	Vermiculite/packing materials is	Wet [] Dry [-)
6.	Number of samples in shipping container.	
7.	Sample holding times exceeded?	Yes [] No []
8.	Samples have:	
9.	Samples are:in good conditionleakinghave air bubbles	
10. 11.	Where any anomalies identified in sample receipt? Yes [] No Description of anomalies (include sample numbers):	
		
Sample	e Custodian/Laboratory: A. Sellen Legoate: ()	1-63-00
Teleph	oned To:OnBy	
		000027



Condition Upon Receipt Variance Report St. Louis Laboratory Login No.: <u>FOAO40143</u> WO2993

Condition/Variance (Check all that apply):	·	·	Numbers: <u>B00-013-142,90</u> ,95
Sample received broken/leaking. Sample received without proper preservative. Cooler temperature not within 4-C ± 2-C Record temperature: □ pH □ other:	9. 10.		Sample ID on container does not match sample ID on paperwork. Explain: All coolers on airbill not received with shipment. Other (explain below):
 Sample received in improper container. Sample received without proper paperwork. Explain: Paperwork received without sample. No sample ID on sample container. Custody tape disturbed/broken/missing. 			
No variances were noted during sample receipt. Cooler Tomperature Variance Does Not Affect the Following Analyses: Notes:	emperat	ure U	Jpon Receipt: 2 °
Corrective Action:			-
☐ Client's Name: Informed verb	ally on:		By:
☐ Client's Name: Informed in w	riting on	: -	By:
Sample(s) processed "as is". Comments: Sample(s) on hold until:		If	released, notify:
Sample Control Supervisor Review: (or les lands) (UNIVAL) Project Management Review: SIGNED ORIGINAL MUST BE RETA SL-ADMIN-0004, Revised 12/12/98		Date:	01-04-00 1-4-00 PROJECT FILE

TLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD

LAB ID: F-0A050217-001

PROJECT #: D&D WORK ORDER: D74C5

 REPORT TO:
 Bechtel Hanford, Inc.
 RECEIVING DATE:
 1/04/00

 P.O. NUMBER:
 MRC-SBB-A-19981
 SAMPLING DATE:
 1/04/00

 SITE:
 B00-013
 ANALYTICAL DUE DATE:
 1/24/00

 AMOUNT REC"D:
 60G
 REPORT DUE DATE:
 1/24/00

STORAGE LOC: T6A PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:20
4ATRIX: SOLID RECEIVING TIME: 11:00

SAMPLE ID: BOXB53

QC PACKAGE: Special Report - see checklist SDG# : 1102993

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/05/00 0/00/00 7/02/00

METALS, TOTAL - Soils

MT6010 S PB

(A-46-QM-01) D74C5 Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/05/00 0/00/00 2/01/00

METALS, TOTAL (Method Exclusive) - Solids

M7471_S HG

(A-70-09-01) D74C5 Protocol: A QC Program: STANDARD TEST SET

PSL20300 ' QUANTERRA INCORPORATED Run Date: 1/05/00 Page ° 1 CLIENT ANALYSIS SUMMARY Time: 10.1 User Id.: WILSONS Time: 15:35:36 Quanterra - St. Louis

CLIENT: 127642 BECHTEL HANFORD, INC.

QUOTE/SAR #: 33811 LAB ID: F-0A050217-002

PROJECT MANAGER: MARTI WARD

PROJECT #: D&D

WORK ORDER: D74C9

Bechtel Hanford, Inc. REPORT TO: P.O. NUMBER: MRC-SBB-A-19981

RECEIVING DATE: 1/04/00 SAMPLING DATE: 1/04/00

SITE: B00-013

ANALYTICAL DUE DATE: 1/24/00N

AMOUNT REC"D: 60G STORAGE LOC: T6A

REPORT DUE DATE: 1/24/00

PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME:

MATRIX: SOLID

RECEIVING TIME: 11:00

SAMPLE ID: B0XB54

QC PACKAGE: Special Report - see checklist SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

EXP DATE EXP DATE

**** ANALYSIS *****

LOC DATE

Inductively Coupled Plasma (6010B Trace) 06 1/05/00 0/00/00 7/02/00 METALS, TOTAL - Soils

MT6010 S PB

(A-46-QM-01) D74C9 Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/05/00 0/00/00 2/01/00

METALS, TOTAL (Method Exclusive) - Solids

M7471 S HG

(A-70-09-01) D74C9 Protocol: A QC Program: STANDARD TEST SET

PSL20300 QUANTERRA INCORPORATED Run Date: 1/05/00 Time: 15:35:36 User Id.: WILSONS Page ' 1 CLIENT ANALYSIS SUMMARY Quanterra - St. Louis

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811 QUUTE/SAR #: 33811 LAB ID: F-0A050217-003 PROJECT MANAGER: MARTI WARD

PROJECT #: D&D WORK ORDER: D74CC

Bechtel Hanford, Inc. REPORT TO: RECEIVING DATE: 1/04/00 SAMPLING DATE: 1/04/00 P.O. NUMBER: MRC-SBB-A-19981 SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T6A PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:41

MATRIX- SOLID RECEIVING TIME: 11:00

SAMPLE ID: B0XB55

QC PACKAGE: Special Report - see checklist SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/05/00 0/00/00 7/02/00

METALS, TOTAL - Soils

MT6010 S PB

(A-46-QM-01) D74CC Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/05/00 0/00/00 2/01/00

METALS, TOTAL (Method Exclusive) - Solids

M7471 S HG

(A-70-09-01) D74CC Protocol: A QC Program: STANDARD TEST SET

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811
PROJECT MANAGER: MARTI WARD LAB ID: F-0A050217-004

PROJECT #: D&D WORK ORDER: D74CE

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/04/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/04/00 SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00 AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T6A PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:48
MATRIX: SOLID RECEIVING TIME: 11:00

SAMPLE ID: BOXB56

QC PACKAGE: Special Report - see checklist SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/05/00 0/00/00 7/02/00

METALS, TOTAL - Soils

MT6010 S PB

(A-46-QM-01) D74CE Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/05/00 0/00/00 2/01/00

METALS, TOTAL (Method Exclusive) - Solids

M7471_S HG

(A-70-09-01) D74CE Protocol: A QC Program: STANDARD TEST SET

PSL20300 QUANTERRA INCORPORATED
Page 1 CLIENT ANALYSIS SUMMARY
Quanterra - St. Louis

Run Date: 1/05/00 Time: 15:35:36 User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811 PROJECT MANAGER: MARTI WARD LAB ID: F-0A050217-005

PROJECT #: D&D WORK ORDER: D74CF

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/04/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/04/00 SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N

AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00 STORAGE LOC: T6A PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 8:53

MATRIX: SOLID RECEIVING TIME: 11:00

SAMPLE ID: B0XB57

QC PACKAGE: Special Report - see checklist SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/05/00 0/00/00 7/02/00

METALS, TOTAL - Soils MT6010 S PB

(A-46-QM-01) D74CF Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/05/00 0/00/00 2/01/00

METALS, TOTAL (Method Exclusive) - Solids

M7471 S HG

(A-70-09-01) D74CF Protocol: A QC Program: STANDARD TEST SET

3L20300 QUANTERRA INCORPORATED CLIENT ANALYSIS SUMMARY age ' 1 Ouanterra - St. Louis

Run Date: 1/05/00 Time: 15:35:36 User Id.: WILSONS

LIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811 ROJECT MANAGER: MARTI WARD LAB ID: F-0A050217-006

WORK ORDER: D74CG ROJECT #: D&D

EPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/04/00 SAMPLING DATE: 1/04/00 .O. NUMBER: MRC-SBB-A-19981 ANALYTICAL DUE DATE: 1/24/00N ITE: B00-013 MOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

TORAGE LOC: T6A PRIORITY: 18

OT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:15 RECEIVING TIME: 11:00 ATRIX: SOLID

AMPLE ID: BOXB58

C PACKAGE: Special Report - see checklist SDG# :

AMPLE COMMENTS:

eginning Depth: .00 Ending Depth: .00

> WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/05/00 0/00/00 7/02/00

METALS, TOTAL - Soils

MT6010 S PB

(A-46-QM-01) D74CG Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/05/00 0/00/00 2/01/00

METALS, TOTAL (Method Exclusive) - Solids

M7471 S HG

(A-70-09-01) D74CG Protocol: A QC Program: STANDARD TEST SET

PSL20300 Run Date: 1/05/00 QUANTERRA INCORPORATED Page 1 Time: 15:35:36 User Id.: WILSONS CLIENT ANALYSIS SUMMARY Quanterra - St. Louis

CLIENT: 127642 BECHTEL HANFORD, INC. QUOTE/SAR #: 33811 LAB ID: F-0A050217-007 PROJECT MANAGER: MARTI WARD

PROJECT #: D&D WORK ORDER: D74CJ

REPORT TO: Bechtel Hanford, Inc. RECEIVING DATE: 1/04/00 P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 1/04/00

SITE: B00-013 ANALYTICAL DUE DATE: 1/24/00N AMOUNT REC"D: 60G REPORT DUE DATE: 1/24/00

STORAGE LOC: T6A PRIORITY: 18

LOT COMMENTS: Hanford Summary and FEAD EDD required SAMPLING TIME: 9:28

MATRIX: SOLID RECEIVING TIME: 11:00

SAMPLE ID: BOXB59

QC PACKAGE: Special Report - see checklist SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** LOC DATE EXP DATE EXP DATE

Inductively Coupled Plasma (6010B Trace) 06 1/05/00 0/00/00 7/02/00

METALS, TOTAL - Soils

MT6010 S PB (A-46-QM-01) D74CJ Protocol: A QC Program: STANDARD TEST SET

Mercury (7471A, Cold Vapor) - Solids 06 1/05/00 0/00/00 2/01/00

METALS, TOTAL (Method Exclusive) - Solids

M7471 S HG

(A-70-09-01) D74CJ Protocol: A QC Program: STANDARD TEST SET

Bechtel Hanfo	ord Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST B										B00-013-97 Page 1 of		
Collector Fahlberg			Compan J Adle	ny Contact er	Telepho 373-4				Project Coord TRENT, SJ	inator	Price Code	9L	Data Tur		
Project Designation 105-F/DR Phase III Below-	grade Areas Sampling an		Samplin 105 F	ng Location		·······	<u> </u>		SAF No. B00-013		Air Quality [211)ays 	
Ice Chest No.	96-065		Field Lo	ogbo ok No. 124		COA 105F2280					ivered				
Shipped To Quanterra Incorporated			Offsite I	Property No.	·		 _		Bill of Lading	/Air Bill l	to. Ou	rborn	1 401	1250	54
POSSIBLE SAMPLE HAZ	ARDS/REMARKS			Preservation	Cool 4C	None	Cool 4C	Non	e None				84	01-10	25°
•	W02993			Type of Container	аG	aG	aG	aG	aG						
:				No. of Container(s)	0	0	1	1	1						
Special Handling and/or St			Volume	60mL	120mL	60mL	60m	L 120mL							
	SAMPLE ANAL	vsis	ne	1-25	PCBs - 8082	Isotopic Uranium	7196_CR6: Hexavalent Chromium (1)	ICP Me 6010 (Superti {Lead	A Special Instructions	Ì					-
SPG-W029	93)OA	040	140		/	√	7471 - (
Sample No.	Matrix *	Sampl	e Date	Sample Time						EC					2
B0XB53	Other Solid	1-4	-00	18:20	<u>_~</u>	<u></u>	<u> </u>	<u>X</u>	\ <u>X_</u>	D7	216-J	<u> </u>	BerBP5	100	16
Box B54	CTHER SOUND	1-4	<u>-00</u>	08:32	<u></u> ለ	×	<u> </u>	ل ــــــــــــــــــــــــــــــــــــ	X	1)'[2 GW	 	BOYEF5		-
Box B65	OTHERSain	1-4	<u>- 00</u>	08:41		<u> </u>	- X		<u></u>	1)'1'	2 6 X	<u> </u>	BOVDF5	T 7	
Box B6/a	Comea Souris	1	<u> </u>		·	X	<u> </u>	<u> x</u>	X	12'/2	<u> </u>	_	30/865		
CIIAIN OF POSSESSI	Chine Socia		n/Print		<u> </u>	<u> </u>	<u> </u>	X	<u> </u>	107	21 HC		DOUBE S	Matrix	*
Relinquished By	Date/Time 16	Received	al D	enling 1-	ate/Time (- 4 - 0 6 Ass/Eirpe, p, ((1) Stro	ontium-89,90 - 1 オロディ	scopy (C Total Sr; T	Cobalt-60}; Gamm Technetium-99; An	nericiym-24 پ، حمد ما	1; Nickel-63; Ca	rbon-14 L Orms	iom.	S-Soll SE=Sedim SO-Solid S -Sludge W = Water O-Oil	cast
Relinquished By Relinquished By	Date/Time	Receive			ate/Time	_	JT 0 = 7	آ ک	Mario	خ ۵۰	ەن ئىن حە	e FOR F	CB' 4,	A=Air DS=Drum DL=Drum T=Tissue W1=Wipe	1. Iquids
Relinquished By	Date/Time	Received		<u> </u>	ate/Time									L=Liquid V=Vegeta X=Other	
Relinquished By	Date/Time	Receive	d By	Da	ate/Time				•		•				
LABORATORY Received SECTION					Ť	ille							Pate/Time		
FINAL SAMPLE Disposal I DISPOSITION	Method						Dispo	sed By					Date/Time		
2.0.0011011															

CUR#020568 2º

Bechtel Hanf	ord Inc.	1 (CHAIN OF CUST	CODY/S	Γ	B00-013-101 Page 1 0			of <u>1</u>				
Collector Fahlberg			npany Contact Adler	Telepho 373-4				Project Coordi TRENT, SJ	nator	Price Code 9L			rnaround
Project Designation 105-F/DR Phase III Below	-grade Areas Sampling an	San d Analy l	npling Location 05 F Solids Feed					SAF No. B00-013		Air Quality 21			Days
Ice Chest No.	76-065		d Logbook No. EL 1424		COA R105F228	oc		Method of Ship		livered			
Shipped To Quanterra Incorporated		on	ffsite Property No. Bill of Lading/Air Bill No.										
POSSIBLE SAMPLE HAZ	ZARDS/REMARKS		Preservation	Cool 4C	None	None							
	WO 2993		Type of Container	aG	aG	aG					<u> </u>		
	VO =		No. of Container(s)	ī	1	1			ļ <u></u>				
Special Handling and/or S	torage		Volume	60mL	60mL	120mL							
	SAMPLE ANAL	.YSIS		7196_CR6: Hexavalent Chromium (1)	ICP Metals - 6010A (Supertrace) {Lead}; Mercury - 7471 - (CV)	See item (1) in Special Instructions.							
Sample No.	Matrix *	Sample Da	te Sample Time		Dition.					SH Jane 1		o de la compa	ASIEZ
B0XB58	Other Solid	1-4-0	09:15	×	X	χ	07	2 49				BoxBF	100%
Bov B50	OTHER SOLIS	1-4-0	09:28	<i>X</i>	*	_X	07	2 HA				Boyler	1
CHAIN OF POSSESS	ION	Sign/P	rint Names		SPEC	IAL INSTR	UCTIO	ONS					Matrix *
Relinquished By Relinquished By Relinquished By Relinquished By Relinquished By Relinquished By	16an 1.4.00	Received By Received By	Jenann D.	ate/Time ate/Time ate/Time ate/Time	(1) G Stron	iamma Spectro tium-89,90 — T	scopy {C	obalt-60}; Gamma Fechnetium-99; Am	Spec - Ad ericium-2	ld-on {Barium-13 41; Nickel-63; Ca V	13); Isotopic Plu arbon-14	/ tonium;	S-Soil SE-Sodiment SO-Soid S = Studge W = Water O-Oil A-Air DS-Drum Liquida T=Tissue WI=Wee L=Liquid V=Vegetation X=Other
LABORATORY Received	Ву			Ti	tle			· · · · · · · · · · · · · · · · · · ·			i	Date/Time	<u> </u>
SECTION FINAL SAMPLE Disposal DISPOSITION	Method					Dispo	sed By					Date/Time	



ERC Radiological Counting Facility Analysis Report

 RCF Number RCF6958
 Sample Date & Time 12/29/99 0935

 Project ID: 105-F
 SAF Number: 800-013
 Date Analyzed 12/30/99 8:07:

Sample ID: BOXBF5

Gainma Ene	rgy Anal	ysi s			
Nuclide	Nuclide Acti)	Error (pCi/g)	MDC (pCi/g)
K-40	<	1.4E+02			1.4E+02
Co-60	<	7.8E+00			7.8E+00
Cs-137	<	2.0E+01			2.0E+01
Eu-152	<	4.9E+01			4.9E+01
Eu-154	<	3.9E+01			3.9E+01
Eu-155	<	7.9E+01			7.9E+01
Th-232D	. <	4.4E+01		÷	4.4E+01
U-235	. <	1.6E+02			1.6E+02
U-238	<	3.4E+03		•	3.4E+03
U-238D	•	1.4E+02	+/-	4.5E+01	5.1E+01
Am-241	<	4.5E+01			4.5E+01

Total GEA (pCi/g)	1.4E+02 +	+/ -	4.5E+01	
	Activity (pCi/g	d)	Error (pCi/g)	Alpha MDC (pCi/g)
Cross Alpha**	2.0E+00	+/-	9.3E-01	9.3E-01
Gross Beta	2.4E+01	+/-	1.7E+00	Beta MDC (pCi/g)

Definitions:

All errors reported at 2 standard deviations,

N/R = no result or analysis not requested. <MDC = Less than detection limit.

All GEA results reported as "<" list the Minimum Detectable Concentration (MDC) value for that radionuclide.

Rounding error may result in the reported total GEA activity differing from the sum of the > MDC GEA values in the second significant digit.

For soils and natural samples, the following applies:

The analysis of U-238 is based on the activity of Pa-234m.

The analysis of Np-237 is based on the activity of Pa-233.

U-238dan is the activity of Pb-214 and Bi-214, short lived daughter products of U-238. Equilibrium between parent and daughter products probably does not exist in disturbed materials.

Th-232dau is the activity of Ac-228, Pb-212, and Tl-208, short lived daughter products of Th-232. Equilibrium between parent and daughter products may not exist in disturbed materials.

Other samples, not containing natural materials, may have inapplicable results for the Th, U, transuranies and daughter products. The results must then be balanced for the gross alpha analysis.

**The gross sipha results are not corrected for mass absorbtion

No peaks for this radionuclide were visible above background in the spectrum. The result was reported as less than MDC.

Analyst 12/30/99 Report To Fax

T. J. Snider D. St John 372-9487

Report Printed: Thursday, December 30, 1999

ERC Radiological Counting Facility Analysis Report

 RCF Number RCF6959
 Sample Date & Time 12/29/99
 0952

 Project ID: 105-F
 SAF Number: B00-013
 Date Analyzed 12/30/99 9:08:

Sample ID: BOXBF6

Gamma Enci	rgy Anal	ysis			
Nuclide	. A	Activity (pCi/g)		Error (pCi/g)	MDC (pCi/g)
K-40	. <	1.7E+02			1.7E+02
Co-60	<	1.8E+01			I.8E+01
Cs-137	<	1.8E+01			1.8E+01
Eu-152	<	4.7E+01			4.7E+01
Eu-154	<	4.8E+01			4.8E+01
Eu-155	<	8.0E+01			8.0E+01
Th-232D	<	4.7E+01			4.7E+01
U-235	<	1.6E+02			1.6E+02
U-238	<	3.3E+03			3.3E+03
U-238D		9.4E+01	+/-	4.3E+01	4.9E+01
Am-24 I	<	4.7E+01			4.7E+01

Total GEA (pCi/g)	9.4E+01 +	+/-	4.3E+01	
	Activity (pCi/g	;)	Error (pCi/g)	Alpha MDC (pCi/g)
Gross Alpha**	7.6E-01	+/-	6.0E-01	4.3E-01
Gross Beta	1.0E+ 0 1	+/-	1.2E+00	Beta MDC (pCi/g) 5.6E+00

Definitions:

All errors reported at 2 standard deviations.

N/R = no result or analysis not requested. <MDC = Less than detection limit.

All GEA results reported as "<" list the Minimum Detectable Concentration (MDC) value for that radionuclide.

Rounding error may result in the reported total GEA activity differing from the sum of the > MDC GEA values in the second significant digit,

For soils and natural samples, the following applies:

The analysis of U-238 is based on the activity of Pa-234m.

The analysis of Np-237 is based on the activity of Pa-233.

U-238dau is the activity of Pb-214 and Bi-214, short lived daughter products of U-238. Equilibrium between parent and daughter products probably does not exist in disturbed materials.

Th-232dau is the activity of Ac-228, Pb-212, and Ti-208, short lived daughter products of Th-232. Equilibrium between parent and daughter products may not exist in disturbed materials.

Other samples, not containing natural materials, may have inapplicable results for the Th, U, transuranies and daughter products. The results must then be balanced for the gross alpha analysis.

**The gross alpha results are not corrected for mass absorbtion

No peaks for this radionuclide were visible above buckground in the spectrum. The result was reported as less than MDC.

Analyst 12/30/99 Report To Fax

T. J. Shills D. St John 372-9487

Report Printed: Thursday, December 30, 1999

Figure 1

SAMPLE CHECK-IN LIST

Date/Time Received: 01-04-00	sg#: W02993
Work Order Number: JOA040140	SAF#: <u>BOO-013</u> -
Shipping Container ID: <u>FRC 96-065</u> Chair	n of Custody #
Custody Seals on shipping container intact	t? Yes [J-No []
2. Custody Seals dated and signed?	Yes [] No []
3. Chain-of-Custody record present?4. Cooler temperature	Yes [] No []
Vermiculite/packing materials isNumber of samples in shipping container:	Wet [] Dry []
7. Sample holding times exceeded?	Yes [] No []
{	ard labels ropriate sample labels
9. Samples are:in good conditionbroken	leaking have air bubbles
10. Where any anomalies identified in sample11. Description of anomalies (include sample	
Sample Custodian/Laboratory: 1	1/1/90ate: 01-04-00
Telephoned To:On	Ву



020568

Condition Upon Receipt Variance Report St. Louis Laboratory

Login No.: FOAOSD217

Client: Hanford		Date: 01-05-00 Time: 0830					
Project No: 338// Shipper/No: Air bor ne / 4012584 015	Initia RFA	ated by A/COC	y: <u>Jason Tiennann</u> : Numbers: <u>B00-013-97, 101,</u>				
Condition/Variance (Check all that apply):	• • • • • • • • • • • • • • • • • • • •						
1. □ Sample received broken/leaking.	8.		Sample ID on container does not match sample ID				
2. Sample received without proper preservative.			on paperwork. Explain:				
Cooler temperature not within 4-C ± 2-C							
Record temperature:			<u> </u>				
п рН	9.		All coolers on airbill not received with shipment.				
other:	_ 10.		Other (explain below):				
3. □ Sample received in improper container.							
4. □ Sample received without proper paperwork. Explain:							
5. Paperwork received without sample.							
6. □ No sample ID on sample container.							
7. Custody tape disturbed/broken/missing.							
Temperature Variance Does Not Affect the Following Analyses: Notes:							
Corrective Action:							
☐ Client's Name: Inform	ed verbally on	:	Ву:				
Client's Name: Inform	ed in writing o	on: -	Ву:				
☐ Sample(s) processed "as is".							
Comments: Sample(s) on hold until:			f released, notify:				
Sample Control Supervisor Review: for desired (1914)	m	Date					
Project Management Review:	rid	Date	1-5-00				
SI ADMIN 0004 Paying 12 02/08 SIGNED ORIGINAL MUST B	E RETAINED I	IN THI	E PROJECT FILE				

Client Sample ID: BOXBH1

TOTAL Metals

Matrix....: SOLID Lot-Sample #...: F0A040163-001 Date Sampled...: 12/29/99 Date Received..: 01/03/00

% Moisture....: PREPARATION -WORK REPORTING ANALYSIS DATE ORDER # UNITS METHOD PARAMETER RESULT LIMIT Prep Batch #...: 0025202 SW846 6010B 01/25/00 D72VN101 30.7 0.30 mg/kg Lead Dilution Factor: 1 Prep Batch #...: 0026217 SW846 7471A 01/31-02/01/00 D72VN104 0.10 0.033 mg/kg Mercury Dilution Factor: 1

Client Sample ID: BOXBH2

TOTAL Metals

Lot-Sample #: F0A040163-002 Date Sampled: 12/29/99 Date Received: 01/03/00 % Moisture:					Matrix:	SOLID
PARAMETER	RESULT	REPORTIN	NG UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #. Lead	: 0025202 22.9	0.30 Dilution Fac	mg/kg	SW846 6010B	01/25/00	D72X4101
Prep Batch #.	: 0026217 0.10	0.033	mg/kg	SW846 7471 A	01/31-02/01/00	D72X4102

Dilution Factor: 1

Client Sample ID: B0XBH3

TOTAL Metals

Lot-Sample #...: F0A040163-003 Matrix....: SOLID

Date Received..: 01/03/00 Date Sampled...: 12/29/99

% Moisture....: PREPARATION-WORK REPORTING RESULT LIMIT UNITS METHOD ANALYSIS DATE ORDER # PARAMETER Prep Batch #...: 0025202 01/25/00 SW846 6010B D72X5101 14.4 0.30 mg/kg Dilution Factor: 1 Prep Batch #...: 0026217 01/31-02/01/00 D72X5102 SW846 7471A 0.075 0.033 mg/kg Mercury Dilution Factor: 1

Client Sample ID: BOXBH4

TOTAL Metals

Lot-Sample #. Date Sampled. % Moisture	: 12/29/99	Matrix:	SOLID			
PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #. Lead	: 0025202 19.2	0.30 Dilution Facto	mg/kg	SW846 6010B	01/25/00	D72X6101
Prep Batch #. Mercury	0.24	0.033 Dilution Facto	mg/kg or: 1	SW846 7471A	01/31-02/01/00	D72X6102

Client Sample ID: B0XB46

TOTAL Metals

Lot-Sample #...: F0A040163-005 Matrix.....: SOLID

Date Sampled...: 01/03/00 Date Received..: 01/03/00

% Moisture....: REPORTING PREPARATION-WORK METHOD ANALYSIS DATE ORDER # PARAMETER RESULT LIMIT UNITS Prep Batch #...: 0025202 SW846 6010B 01/25/00 D72XC101 Lead 10.9 0.30 mg/kg Dilution Factor: 1 Prep Batch #...: 0026217 SW846 7471A 01/31-02/01/00 D72XC102 0.10 0.033 mg/kg Mercury Dilution Factor: 1

Client Sample ID: BOXB47

TOTAL Metals

Lot-Sample #...: F0A040163-006 Matrix....: SOLID

Date Sampled...: 01/03/00 Date Received..: 01/03/00

% Moisture....: REPORTING PREPARATION-WORK ORDER # PARAMETER RESULT LIMIT UNITS METHOD ANALYSIS DATE Prep Batch #...: 0025202 SW846 6010B 01/25/00 D72XH101 0.30 mg/kg Lead 12.0 Dilution Factor: 1 Prep Batch #...: 0026217 01/31-02/01/00 D72XH102 SW846 7471A Mercury 0.034 0.033 mg/kg Dilution Factor: 1

Client Sample ID: B0XB48

TOTAL Metals

Lot-Sample #...: F0A040163-007 Matrix....: SOLID Date Received..: 01/03/00 Date Sampled...: 01/03/00

% Moisture....:

REPORTING PREPARATION-WORK RESULT LIMIT UNITS METHOD ANALYSIS DATE ORDER # PARAMETER Prep Batch #...: 0025202 01/25/00 D72XJ101 Lead 4.1 0.30 mg/kg SW846 6010B Dilution Factor: 1 Prep Batch #...: 0026217 0.042 0.033 01/31-02/01/00 D72XJ102 mg/kg SW846 7471A Mercury Dilution Factor: 1

Client Sample ID: B0XB49

TOTAL Metals

Lot-Sample #...: F0A040163-008

Date Sampled...: 01/03/00 Date Received..: 01/03/00

% Moisture	:					
PARAMETER	RESULT	REPORTII	NG UNITS	METHOD	PREPARATION - ANALYSIS DATE	WORK ORDER #
Prep Batch #. Lead	: 0025202 8.3	0.30 Dilution Fac	mg/kg	SW846 6010B	01/25/00	D72XK101
Prep Batch #. Mercury	: 0026217 0.018 B	0.033 Dilution Fac	mg/kg	SW846 7471 A	01/31-02/01/00	D72XK102

NOTE(S):

Matrix..... SOLID

B Estimated result. Result is less than RL.

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: B0XB50

TOTAL Metals

Lot-Sample #...: F0A040163-009 Matrix....: SOLID

Date Sampled...: 01/03/00 Date Received..: 01/03/00

% Moisture.						
		REPORTI	NG		PREPARATION-	WORK
PARAMETER	RESULT	LIMIT	UNITS	METHOD	ANALYSIS DATE	ORDER #
Prep Batch ‡	‡: 0025202					
Lead	34.2	0.30	mg/kg	SW846 6010B	01/25/00	D72XL101
		Dilution Fa	ctor: 1			
Prep Batch #	‡: 0026217					
Mercury	0.028 B	0.033	mg/kg	SW846 7471A	01/31-02/01/00	D72XL102
		Dilution Fac	ctor: 1			

NOTE (S):

B Estimated result. Result is less than RL.

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: B0XB51

TOTAL Metals

Lot-Sample #...: F0A040163-010 Matrix.....: SOLID

Date Sampled...: 01/03/00 Date Received..: 01/03/00

% Moisture....:

REPORTING PREPARATION-WORK PARAMETER LIMIT UNITS METHOD ANALYSIS DATE ORDER # RESULT Prep Batch #...: 0025202 SW846 6010B 01/25/00 Lead 7.9 0.30 mg/kg D72XM101 Dilution Factor: 1 Prep Batch #...: 0026217 01/31-02/01/00 D72XM102 Mercury 0.035 0.033 mg/kg SW846 7471A Dilution Factor: 1

000052

Client Sample ID: B0XB52

TOTAL Metals

Matrix....: SOLID Lot-Sample #...: F0A040163-011

Date Received..: 01/03/00 Date Sampled...: 01/03/00

% Moisture....: PREPARATION-WORK REPORTING ANALYSIS DATE ORDER # METHOD PARAMETER LIMIT UNITS RESULT Prep Batch #...: 0025202 SW846 6010B 01/25/00 D72XN101 Lead 7.7 0.30 mg/kg Dilution Factor: 1 Prep Batch #...: 0026217 SW846 7471A 01/31-02/01/00 D72XN102 Mercury 0.024 B 0.033 mg/kg Dilution Factor: 1

NOTE(S): B Estimated result. Result is less than RL.

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: BOXB53

TOTAL Metals

Lot-Sample #. Date Sampled.	: F0A050217		Received	: 01/04/00	Matrix:	SOLID
PARAMETER	RESULT	REPORTIN LIMIT	G UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #.	0.056	0.033 Dilution Fac	mg/kg tor: 1	SW846 7471A	01/31-02/01/00	D74C5102
Prep Batch #. Lead	: 0027162 59.3	0.30	mg/kg	SW846 6010B	01/27/00	D74C5101

Client Sample ID: B0XB54

TOTAL Metals

Lot-Sample #...: F0A050217-002 Matrix..... SOLID Date Sampled...: 01/04/00 Date Received..: 01/04/00 REPORTING PREPARATION-WORK PARAMETER RESULT LIMIT UNITS ANALYSIS DATE ORDER # Prep Batch #...: 0026217 Mercury 0.039 0.033 SW846 7471A 01/31-02/01/00 D74C9102 mg/kg Dilution Factor: 1 Prep Batch #...: 0027162

SW846 6010B

01/27/00

D74C9101

mg/kg

0.30

Dilution Factor: 1

Lead

12.2

Client Sample ID: B0XB55

TOTAL Metals

Lot-Sample #. Date Sampled.	.:: F0A050217- .:: 01/04/00		Received	: 01/04/00	Matrix:	SOLID
PARAMETER	RESULT	REPORTIN	G UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #. Mercury	0.22	0.033 Dilution Fact	mg/kg tor: 1	SW846 7471A	01/31-02/01/00	D74CC102
Prep Batch #. Lead	: 0027162 5.9	0.30	mg/kg	SW846 6010B	01/27/00	D74CC101

Client Sample ID: B0XB56

TOTAL Metals

Lot-Sample #...: F0A050217-004 Matrix....: SOLID Date Sampled...: 01/04/00 Date Received..: 01/04/00 REPORTING PREPARATION-WORK PARAMETER RESULT LIMIT UNITS METHOD ANALYSIS DATE ORDER # Prep Batch #...: 0026217 SW846 7471A 01/31-02/01/00 D74CE102 Mercury 0.092 0.033 mg/kg Dilution Factor: 1 Prep Batch #...: 0027162 SW846 6010B 01/27/00 Lead 7.3 0.30 mg/kg D74CE101

Dilution Factor: 1

Client Sample ID: B0XB57

TOTAL Metals

	: F0A050217		Received	: 01/04/00	Matrix:	SOLID
PARAMETER	RESULT	REPORTII LIMIT	NG UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch # Mercury	0.044	0.033 Dilution Fac	mg/kg	SW846 7471A	01/31-02/01/00	D74CF102
Prep Batch # Lead	: 0027162 29.1	0.30 Dilution Fac	mg/kg	SW846 6010B	01/27/00	D74CF101

Client Sample ID: B0XB58

TOTAL Metals

Lot-Sample #...: F0A050217-006 Matrix....: SOLID

REPORTING PREPARATION-WORK PARAMETER RESULT LIMIT UNITS METHOD ANALYSIS DATE ORDER # Prep Batch #...: 0026217 Mercury 0.040 0.033 mg/kg SW846 7471A 01/31-02/01/00 D74CG102 Dilution Factor: 1

Prep Batch #...: 0027162

Lead 5.7 0.30 mg/kg SW846 6010B 01/27/00 D74CG101

Dilution Factor: 1

Client Sample ID: B0XB59

TOTAL Metals

Lot-Sample #: F0A050217-007 Date Sampled: 01/04/00 Date Received: 01/04/00					Matrix: SOLID		
		REPORTI	NG		PREPARATION-	WORK	
PARAMETER	RESULT	LIMIT	UNITS	METHOD	ANALYSIS DATE	ORDER #	
Prep Batch #	: 0026217						
Mercury	0.024 B	0.033	mg/kg	SW846 7471A	01/31-02/01/0	0 D74CJ102	
		Dilution Fac	ctor: 1				
Prep Batch #	: 0027162						
Lead	4.8	0.30	mg/kg	SW846 6010B	01/27/00	D74CJ101	
		Dilution Fac	ctor: 1				
NOTE(S):							

B Estimated result. Result is less than RL.

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: B0X9V6

TOTAL Metals

Lot-Sample #...: F9L300209-001 Matrix....: SOLID Date Sampled...: 12/27/99 Date Received..: 12/29/99 REPORTING PREPARATION-WORK PARAMETER RESULT LIMIT UNITS METHOD ANALYSIS DATE ORDER # Prep Batch #...: 0013372 Lead 24.7 0.30 SW846 6010B mg/kg 01/13/00 D7124101 Dilution Factor: 1 Prep Batch #...: 0018187 Mercury 0.83 0.033 SW846 7471A mg/kg 01/18/00 D7124104 Dilution Factor: 1

Client Sample ID: B0X9V7

TOTAL Metals

Lot-Sample #: F9L300209-002 Date Sampled: 12/27/99 Date Received: 12/29/99					Matrix:	SOLID
	DECLY #	REPORTIN		MERILOD	PREPARATION-	WORK
PARAMETER	RESULT	LIMIT	<u>UNITS</u>	METHOD	ANALYSIS DATE	ORDER #
Prep Batch #. Lead	: 0013372 1 1.9	0.30 Dilution Fac	mg/kg	SW846 6010B	01/13/00	D7369101
Prep Batch #.	: 0018187					
Mercury	0.58	0.033	mg/kg	SW846 7471A	01/18/00	D7369102
		Dilution Fac	tor: 1			

METHOD BLANK REPORT

TOTAL Metals

Client Lot #: F9L300209					Matrix SOLID		
		REPORTI	1G		PREPARATION-	WORK	
PARAMETER	RESULT	IJIMIT	UNITS	METHOD	ANALYSIS DATE	ORDER #	
MB Lot-Sample	e #: F0A130000)-372 Prep I	Batch #:	: 0013372			
Lead	ND	0.30	mg/kg	SW846 6010B	01/13/00	D7E6K101	
		Dilution Fac	ctor: 1				
MB Lot-Sample	e #: F0A180000 ND	0-187 Prep 1 0.033 Dilution Fac	mg/kg	SW846 7471A	01/18/00	D7HV5101	
NOTE(S):			·				

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0A040163

NOTE(S):

Matrix....: SOLID

				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
PARAMETE R	RESULT	REPORTII LIMIT	NG UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #	
PARAMETER	KESOHI	<u> </u>	011712	METHOD	ANABISIS DATE	ORDER #	
MB Lot-Sample	#: F0A250000)-202 Prep 1	Bat ch # :	: 0025202			
Lead	ND	0.30	mg/kg	SW846 6010B	01/25/00	D7T2F101	
		Dilution Fac	tor: 1				
MB Lot-Sample Mercury	#: F0A260000 ND	0-217 Prep 1 0.033 Dilution Fac	mg/kg	: 0026217 SW846 7471A	01/31-02/01/0	0 D7VHA101	

Calculations are performed before rounding to avoid round-off errors in calculated results,

METHOD BLANK REPORT

TOTAL Metals

Client Lot #: F0A050217			Matrix: SOLID		
PARAMET ER	RESULT	REPORTING LIMIT UNITS METHOD	PREPARATION- WORK ANALYSIS DATE ORDER #		
MB Lot-Sample	#: F0A260000-2	217 Prep Batch #: 0026217			
Mercury	ND	0.033 mg/kg SW846 7471A	01/31-02/01/00 D7VHA101		
		Dilution Factor: 1			
MB Lot-Sample Lead	#: F0A270000-1	162 Prep Batch #: 0027162 0.30 mg/kg SW846 6010B Dilution Factor: 1	01/27/00 D7WKJ101		

Calculations are performed before rounding to avoid round-off errors in calculated results.

NOTE(S):

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F9L300209 Matrix....: SOLID PERCENT RECOVERY PREPARATION-PARAMETER RECOVERY LIMITS METHOD ANALYSIS DATE WORK ORDER # LCS Lot-Sample#: F0A130000-372 Prep Batch #...: 0013372 Lead (76 - 124) SW846 6010B 01/13/00 D7E6K102 Dilution Factor: 1 LCS Lot-Sample#: F0A180000-187 Prep Batch #...: 0018187 Mercury 107 (80 - 120) SW846 7471A 01/18/00 D7HV5102 Dilution Factor: 2

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0A040163 Matrix....: SOLID PERCENT RECOVERY PREPARATION -LIMITS PARAMETER RECOVERY METHOD ANALYSIS DATE WORK ORDER # LCS Lot-Sample#: F0A250000-202 Prep Batch #...: 0025202 Lead (76 - 124) SW846 6010B 01/25/00 D7T2F102 Dilution Factor: 1 LCS Lot-Sample#: F0A260000-217 Prep Batch #...: 0026217 (80 - 120) SW846 7471A 01/31-02/01/00 D7VHA102 Mercury 98 Dilution Factor: 2

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0A050217 Matrix.....: SOLID

PERCENT RECOVERY PREPARATION-

PARAMETER RECOVERY LIMITS METHOD ANALYSIS DATE WORK ORDER #

LCS Lot-Sample#: F0A260000-217 Prep Batch #...: 0026217

Mercury 98 (80 - 120) SW846 7471A 01/31-02/01/00 D7VHA102

Dilution Factor: 2

LCS Lot-Sample#: F0A270000-162 Prep Batch #...: 0027162

Lead 106 (76 - 124) SW846 6010B 01/27/00 D7WKJ102

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results,

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot # Date Sampled		1. .: 01/03/00	Matrix SOLID					
PARAMETER	PERCENT RECOVERY	RECOVERY RPD LIMITS RPD LIMITS	METHOD	PREPARATION - ANALYSIS DATE	WORK ORDER #			
MS Lot-Sampl	e #: F0A04	0163-001 Prep Batch #.	: 0025202					
Lead	110	(75 - 125)	SW846 6010B	01/25/00	D72VN102			
	91	(75 - 125) 12 (0-20)	SW846 6010B	01/25/00	D72VN103			
	Dilution Factor: 1							
MS Lot-Sample #: F0A040163-001 Prep Batch #: 0026217 Mercury 97 (75 - 125) SW846 7471A 01/31-02/01/00 D72VN105								
-	91	(75 - 125) 3.9 (0-20)	SW846 7471A	01/31-02/01/00	D72VN106			
Dilution Factor: 1								
NOTE (S):								

Calculations are performed before rounding to avoid round-off errors in calculated results.

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